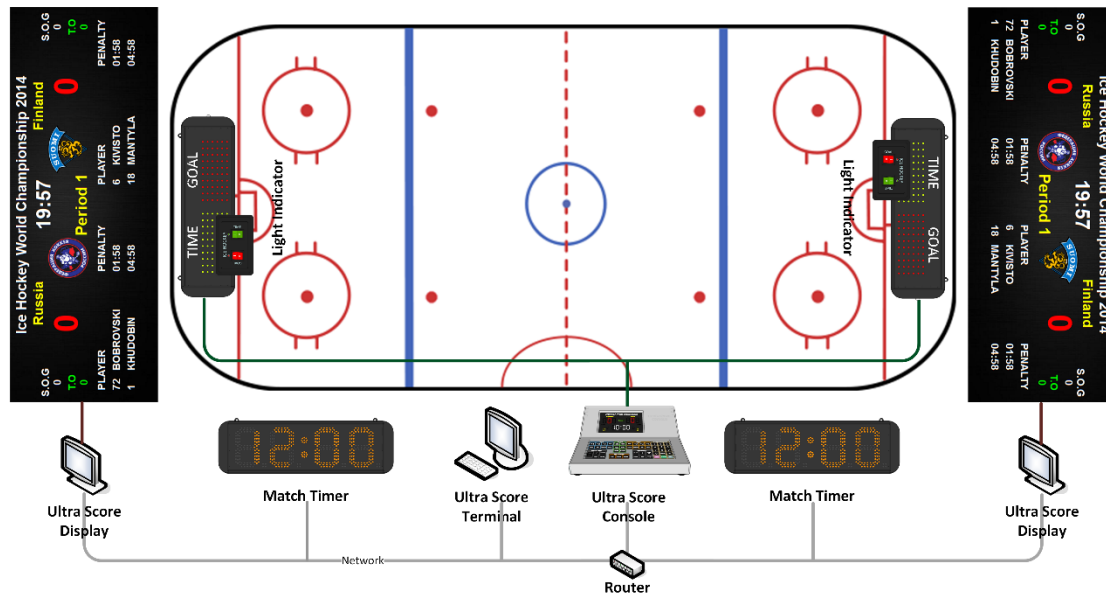


# Timing & Scoring System For Ice Hockey

This is a general solution for LED display in ice hockey stadium which has the functions of timing, scoring and displaying advertisement, notification, the information of referees and teams.

## 1. System Structure



### Description:

- 1) Full-color LED screen: One or two LED screens are equipped for one court, controlled by one computer to display scoreboard, live video and advertisement.
- 2) Ultra Score Software: Installed on the computer for LED control to accomplish the functions of event arrangement, scoring and timing, players and referees' information, and advertisement.
- 3) Score console: One score console is equipped for one court, connected to PC running Ultra score software by wire or via WIFI, working as scoring and timing terminal special for referees' operation.
- 4) Light indicator: Two light indicators are fixed on two sides of court respectively, connection with score console by wire cable.  
When player get a goal, linesman use a handheld controller to turn on the red indicator to prompt a goal, of which the record will be transmitted to score console, waiting for main referee's confirmation.  
The green indicator can be turned on through score console remotely when break timing starts.
- 5) Match timer: Hanged on the court, display the match time synchronous with scoring system.

## 2. Specification for products

### 2.1 Ultra Score Software

Products	Details
Standalone edition	<ul style="list-style-type: none"><li>◆ Installed on one PC.</li><li>◆ Supports: Ice Hockey</li><li>◆ English version</li><li>◆ Including 1 dongle</li></ul>
Standard network edition	<ul style="list-style-type: none"><li>◆ Referee terminal + 1 Display</li><li>◆ Supports: Ice Hockey</li><li>◆ English version</li><li>◆ Including 1 dongle</li></ul>
Professional network edition	<ul style="list-style-type: none"><li>◆ Referee terminal + 2 Display</li><li>◆ Supports: Ice Hockey</li><li>◆ English version</li><li>◆ Including 1 dongle</li></ul>

#### **Difference:**

##### **Standalone Edition:**

Match management, Scoring, and Media display functions, all in one installed on a PC. Referee must do operation on the PC for display directly.

It is suitable for the stadium where has just one screen, which doesn't have strict needs of the scoring and timing accuracy.

##### **Network Standard Edition:**

Score terminal and media player functions can be installed on 2 PCs respectively. So that one independent PC can be setup on the courtside special for referee's operation, the other PC running as media player to manage the LED display.

It is suitable for the stadium where has one screen, needs to do the scoring and timing on the courtside.

##### **Network Professional Edition:**

Except the function of score terminal, 1-3 media players can be equipped on PCs separately, in order to display different contents on several LED screens.

It is suitable for the stadium where has more than 2 screens where referee need to do scoring on the courtside and LED screens need to display different contents separately. (For example, one LED screen is for scoreboard and another is for advertising or player info).

# Scoring interface for ice hockey

Ice Hockey World Championship 2014							
S.O.G 0		<b>Russia</b>		19:56		<b>Finland</b>	
T.O 0		<b>0</b>		<b>Period 1</b>		<b>0</b>	
PLAYER		PENALTY		PLAYER		PENALTY	
72 BOBROVSKI		01:57		6 KIVISTO		01:57	
1 KHUDOBIN		04:57		18 MANTYLA		04:57	

Ice Hockey World Championship 2014							
<b>Russia</b>				<b>Finland</b>			
<b>PENALTY</b>				<b>PENALTY</b>			
<b>72</b>	<b>01:43</b>	<b>19:42</b>		<b>6</b>	<b>01:43</b>		
<b>1</b>	<b>04:43</b>	<b>HOME GUEST</b>		<b>18</b>	<b>04:43</b>		
		<b>0 1 0</b>					

# Player interface for ice hockey

Ice Hockey World Championship 2014							
<b>Russia</b>				<b>Finland</b>			
<b>Manager:</b>				<b>Manager:</b>			
<b>Coach:</b> ZNAROK				<b>Coach:</b> WESTERLUND			
<b>Players:</b>				<b>Players:</b>			
No	Name	Pos		No	Name	Pos	
1	KHUDOBIN			31	KOSKINEN		
35	VASILEVSKI			32	SAROS		
72	BOBROVSKI			35	RINNE		
3	ZUBAREV			5	OHTAMAA		
6	DENISOV			6	KIVISTO		
14	KUTUZOV			10	KARALAHTI		

## Features

- (1) Professional scoreboard display: Scoring and timing operation, layout of scoreboard can meet international game rules.
- (2) Match management: Information of match, team, team members and coaches can be saved in advance. And referee's scoring operation during the match can be recorded and output.
- (3) Scoring functions: Include operation and display of teams and players' point, foul and substitutions.
- (4) Timing functions: Include operation and display of game time, pause, break time, count down time and system time.
- (5) Convenient operation feeling: Referees can do operation on a special score console as well as by using shortcuts on the keyboard.
- (6) Powerful media player: Kinds of media formats are supported. It is easy to switch between the scoreboard and video.
- (7) Notification: Rolling to display short notice on the screen which allows to set the speed, colors, fonts freely.
- (8) Customization: All contents on the scoreboard including fonts, color and layout can be modified to meet clients' needs.
- (9) Self-adaptation: With easy configuration, score information can be displayed on kinds of LED and LCD screen by using this system which can adjust the layout to meet any sizes of screen.
- (10) Security: Auto backup function will help you recover the match immediately from the computer fault.

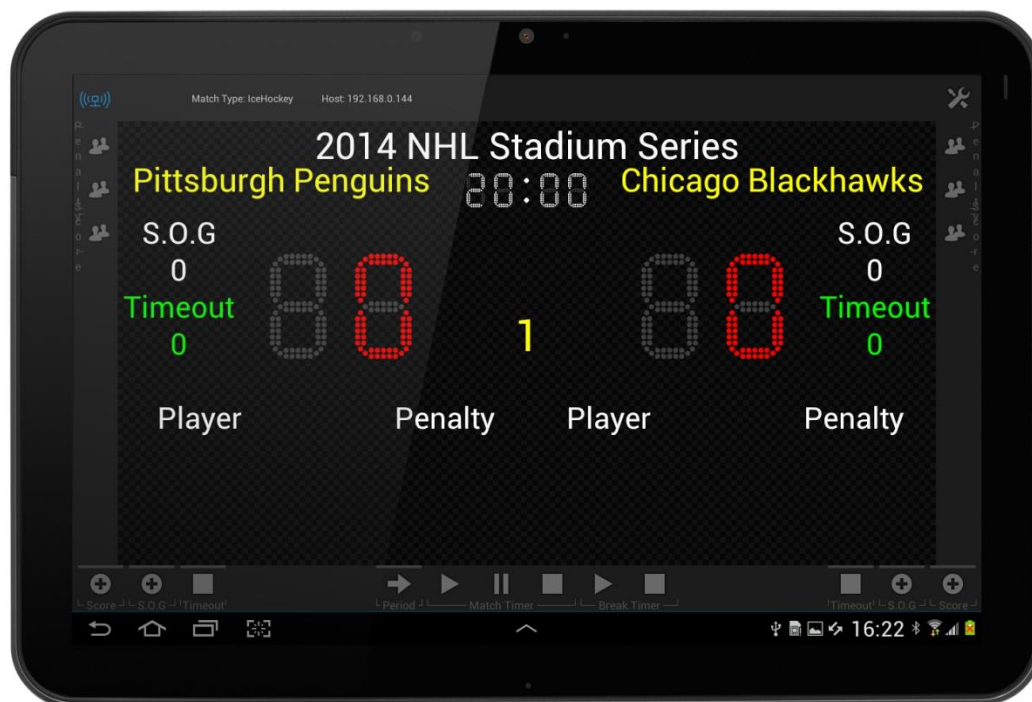
## 2.2 Score Console

Products	Details
Score console	<p>Type: KS-GC16</p> <ul style="list-style-type: none"> <li>◆ Size: 330x290x140(mm)      Net weight: 3kg</li> <li>◆ Used with the Ultra score software</li> <li>◆ Communication: 1*Ethernet, 1*WIFI</li> <li>◆ With 7" full color LCD screen</li> <li>◆ Supports: Ice hockey</li> <li>◆ Functions: Scoring, timing, 2/5/10 mins penalty, S.O.G, Time out, etc.</li> </ul>



### 2.3 Wireless Score Controller (tablet)

Products	Details
Wireless Score Controller	<p>Type: KS-GC14</p> <ul style="list-style-type: none"> <li>◆ Including one license of Lightscore software</li> <li>◆ Screen: 10"inch 2560*1600IPS</li> <li>◆ Ram: 3GB</li> <li>◆ Storage: 32GB</li> <li>◆ Battery: 9300mAh</li> <li>◆ System: Android 6.0</li> <li>◆ Supports: Ice-hockey</li> <li>◆ Communication: WIFI</li> <li>◆ Full colored touch screen</li> <li>◆ Functions: Scoring, timing, 2/5/10 mins penalty, S.O.G, Time out, etc.</li> </ul>



## 2.4 Light Indicator

Products	Details
Light Indicator	Type: KS-ICLI ◆ Size: 620x190x45 (mm) ◆ Weight: 4 KG ◆ Display color: Red & Green ◆ Communication: Aviation connector ◆ Accessories: Cable*50M, Handheld*1 ◆ Functions: Light red indicator to prompt a goal. Light green indicator during break.



## 2.5 Match Timing Display

Products	Details
Match Timing Display	Type: KS-SCRN-7SEGMENT ◆ Size: 620x190x45 mm ◆ Weight: 0.6kg ◆ Display Color: Yellow ◆ Communication: RJ45 network cable ◆ Functions: Synchronously display the match time.



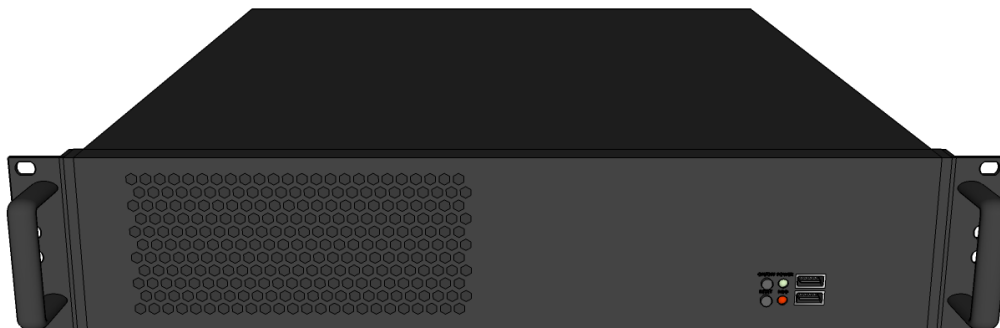
## 2.6 Referee Chair

Products	Details
Referee Chair	Type: KS-RC-G ◆ Size: 1700x900x2150 mm ◆ Display Color: Green ◆ Material: Aluminum Alloy ◆ Accessories: Providing fixing stands for light indicator



## 2.7 Video Arbitration Server

Products	Details
Video Arbitration Server	Type: KS-PARROT-2C/4C/6C/8C Video Input: 2/4/6/8 channels input synchronously; Input port: SDI; Output port: DP*2; Video Format: 1080P; Recording capacity: ≥ 10 hours; Multi-screen monitoring: supported; Weight: 8kg.



## Software interface



## Device Specification

Type	KS-PARROT-2C/4C/6C/8C
Size	485x480x90(mm)
Net Weight	8 KG
Color	Black
Cabinet	Iron
Interface	
Input	SDI*2/4/6/8
Output	DP*2
Environmental	
Operating Temp	-5°C~45°C
Storage Temp	-40°C~80°C
Relative Humidity	5%~95%, non-condensing
Input Voltage	AC 100V~240V
Functions	
<ul style="list-style-type: none"><li>● <b>Nonstop video recording in the background:</b> 2/4/6/8 channels of HD video are recorded simultaneously in the background, nonstop for 10 hours. Video retrieval and playback is unaffected.</li><li>● <b>Synch-playback of multi-channel video:</b> Supports playback mode of single channel video in full screen and multi-angle video in 2/4/6/8 windows.</li><li>● <b>Speed change in slow motion:</b> support 50 frame/s video playback and capture motion in a grid of 0.02s.</li><li>● <b>Video event query:</b> video stream can be divided into several video events, storing in the event list, which can be renamed for retrieve easily.</li><li>● <b>Video segment marker:</b> Important or controversial moments can be marked in video stream which will be replayed quickly when clicking the marked records.</li><li>● <b>Video signal output:</b> provides 2 video output signals, one of which is for preview, the other of which can be connected to LED/LCD display for live slow motion replay.</li></ul>	

## 2.8 Control Panel

Products	Details
Control Panel	<p>Type: KS-PARROT-CP</p> <p>Function:</p> <ul style="list-style-type: none"><li>◆ Support one touch replay, deferred replay, in/out replay.</li><li>◆ Preset speed button.</li><li>◆ T-Bar for dynamic slow motion.</li><li>◆ Professional dynamic jog wheel.</li><li>◆ Key to mark the last 10s/20s of the video content.</li><li>◆ Flexible select the marked video and playback.</li></ul>



**Device Specification**

Type	KS-PARROT-CP
Size	365 x 200 x 98 (mm)
Net Weight	1 KG
Cabinet	Iron
Display	Color LCD(4.3Inch)
Sound	None
Communication	
USB	≤5m
RS232	≤10m
Environmental	
Operating Temp	-5~45°C
Relative Humidity	5~95 %, non-condensing
Storage Temp	-40~80°C
Input Voltage	AC 100V-240V
Total Power	15W

## 2.9 HD Camera

Products	Details
HD Camera	Type: KS-PARROT-CAMERA



### Device Specification

Product Type	KS-PARROT-CAMERA
Image sensor	SONY 1/2.8 inch Progressive CMOS
Effective pixels	3.1 million pixels
Signal System HD	1080p60/50, 1080p30/25, 1080i60/50, 720p60/50
Signal system	PAL/NTSC
Lens	12x optical zoom, f=3.9mm (wide angle) ~46.8mm (distal)
Horizontal view angle	72.5° (wide angle) ~7.4° (distal)
Aggregation mode	Auto / Manual

Minimum illumination	0.1Lux
Shutter speed	1/1~1/10000S
Gain	Auto / Manual
White balance	Auto / Manual / Indoor / Outdoor
Image effect	Color / Black & White / Electron flip
S/N ratio	≥50dB
Horizontal shaking	355° (Maximum velocity 80°/s)
Pitching shaking	-30°~30° (Maximum velocity 60°/s)
Presetting bit	9 remote control and keyboard can set up to 200
Video output HD	HDMI、 3G-SDI、 USB2.0、 USB3.0、 RJ-45
Audio input	3.5mm LINE-IN
Power	12V DC (10.8~13.0V DC)
Operating temp	0°C~40°C
Storage temp	-20°C~60°C
Size	164x148x173mm
Power consumption	12W (DC 12V)
Weight	1050g
Color	Silver

### 3. Success Stories

2017 April, HuaXin Ice-hockey Hall in Shanghai



2015 November, Shanghai Sanlin Sports Center



2015 July, Beijing Tiger Hockey Club

